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City Playgrounds.

THE importance of fresh air to the inhabitants of crowded city tenement districts certainly needs no demonstration; and there are now few thoughtful persons who do not realize the necessity of providing city children with abundant and convenient opportunity to play the outdoor games which belong to their age. The value of playgrounds for the general welfare and uplifting of urban populations is so well understood in Europe that every large European city is well supplied with small parks, squares and playgrounds. London men and boys can now stretch their limbs and harden their muscles in more than a thousand municipal cricket grounds and football fields, and on innumerable public tennis courts, hockey grounds and golf links. Other large English cities are following the example set by the capital; and in Paris, Berlin and Vienna the welfare of children is provided for as it never has been before. In this country there is little stent to the money spent in cramming the youthful mind with information which is not always particularly useful to the recipients in their later practical struggles with the world, but comparatively little is done by our municipalities to make children physically strong and healthy. Almost invariably the public school-houses in thickly-settled districts are destitute of open spaces about them, or these are limited to a few square feet of brick-paved yards usually too small to hold all the children of the school, to say nothing of affording them an opportunity for exercise. Small children and girls usually play in the streets, and the large boys, if they play their games at all, are forced to make excursions to distant parts of the city, or into open suburbs which every year become more remote. American cities are growing in population at the expense of the country, and unless this movement from the country to centres of population is checked, the men and, what is more important, the mothers of the men who are going to make American democracy a success or a failure, will be largely city bred. Something, to be sure, has been done to help the boys and girls of several American cities to secure health, strength and cheerfulness, but the movement for a better provision for their physical welfare certainly has not kept pace with municipal development in some other directions.

In this city the small parks at Mulberry Bend and Corlear's Hook, in the very heart of what is said to be the most thickly populated region in America or Europe, show what can be accomplished in a short time, and how the health and character of the inhabitants of whole districts can be improved by knocking down a few buildings and covering the space which they had occupied with grass and trees, well-graded walks and comfortable benches. New York has legislative authority to spend a million dollars a year in buying land for small parks and playgrounds, and has recently acquired a number of squares for this purpose; and in a recent report of the Mayor's Advisory Committee on Small Parks, of which Mr. Abram S. Hewitt is chairman, the laying out of thirteen additional playgrounds is recommended.

Philadelphia, where a healthy public interest in the subject has been roused by the activity and zeal of the members of the City Parks Association, a body of men and women joined together for the purpose, has purchased since 1888 about one hundred and forty acres of land for small parks and playgrounds and now has two hundred and seventy acres of public grounds outside its large park system. As compared with either New York or Philadelphia Boston is badly equipped with playgrounds in her crowded districts. The city has spent great sums of money in developing an excellent park system, with large and small country parks connected by an admirable parkway; and in Franklin Field, which is still remote from the crowded parts of the city, it has a really noble country playground. During the past year several pieces of land have been purchased by the city for playgrounds but these are mostly in too remote outlying districts to be of real value to the present generation of boys and girls; and with the exception of two north end school-houses, for which a very inadequate playground has been recently bought, no provision is made for the outdoor recreation of school-children near their schools. No good opportunity is given to boys to play baseball, football or hockey anywhere in the city proper except on the Common or anywhere outside the city nearer than Franklin Park or Franklin Field, and the Common is so much used for other purposes that it cannot safely serve now as a playground any more than Madison Square in this city or Liberty Square in Philadelphia can be properly used for games of baseball. The Charlesbank, a narrow strip of land between Charles Street and the Charles River, with its well-equipped gymnasium for boys and girls, is an excellent playground for those who are satisfied with gymnastic exercises; and small boys and girls find an opportunity to play on Charlestown Heights and in the small north end marine park. In other parts of the city there is little space for the recreation of small children, and the story of the efforts of the Massachusetts Emergency and Hygienic Association to furnish places for the little children of Boston to play during the summer months, which is printed in another column, is, to say the least, pathetic.

Even in this city and in Philadelphia, where certainly more attention has been given to this subject than in the other American cities, the full meaning of what is needed in the way of urban recreation grounds has not always been fully understood, and there is evidently some confusion in the public mind with regard to a proper distinction between small parks and playgrounds. Mulberry Bend is a small city park or square laid out with broad walks, and lawns planted with trees and shrubs; it is an attractive and beautiful spot, and it has already had an elevating and healthy influence on the community. Mothers with sick children can find there fresh air, shade, and comfortable seats, and little boys and girls can run about with more freedom on the broad, smooth asphalted walks than they can in narrow crowded streets. Mulberry

Bend, however, is in no sense a playground; it does not contain even a sand garden, the crowning joy of little children in whom the digging instinct is always strongly developed; no manly games can be allowed for there is no room for them; and if the fences which surround the lawns were taken down, the beauty and value of the turf would be destroyed in a single day. Green grass, trees and flowers, with plenty of opportunity to sit and look at them, are needed in all crowded city districts. There cannot be too many such open places; they add to the beauty of cities and to the health and enjoyment of their inhabitants, and by increasing the value of adjacent real estate increase municipal income. Who can figure in dollars and cents the value of Union Square in this city, or place a money estimate on Boston Common? But parks, large and small, useful as they are, are not the only metropolitan outdoor equipment needed for the best development of a city population, and for the children at least real playgrounds are even more important. These should be of two classes: first, small open spaces, if possible adjacent to or near school-houses, where small children can play in safety such games as suit their age and in which sand gardens and a simple gymnastic apparatus can be properly established; and second, larger grounds of at least an acre in extent where boys can play rough games in freedom. In these larger playgrounds no elaborate and expensive laying out and subsequent costly maintenance are needed. The best possible playground is a piece of perfectly level ground with nothing whatever on it to interfere with the games. A good covering of turf would be desirable if it could be maintained on a city playground, but as this is impossible a surface of fine gravel or sifted coal ashes answers the purpose. A row of border trees gives dignity to the place, and affords shade to spectators who always gather to watch the sport of boys, and where trees do not interfere with the real purpose of the ground they can be advantageously used. In every city there should be a number of such open playgrounds used only for rough games and so situated that boys need not be obliged to make long journeys to distant suburbs in order to enjoy those outdoor sports which develop a manly spirit of healthy rivalry and are the best safeguards of youth against the temptations which come from idleness and the lack of opportunity to enjoy proper rational pastimes.

The necessity of municipal action in securing playgrounds is more urgent in this country now than it has ever been before. All American cities are growing rapidly in population and pushing far out over their suburbs. Private land within a reasonable distance of crowded centres of population, on which boys are often able to play, is fast being covered with buildings, and land suitable for playgrounds is everywhere increasing in value. The American city which sets the example of a really comprehensive plan for the healthy recreation of its boys and girls will have contributed something valuable to the civilization and material properity of the nation; and the Mayor who is fortunate enough to be in a position to carry out such a plan need not fear the ingratitude of his contemporaries and the forgetfulness or indifference of posterity.

Nothing has so discouraged persons who believe in the value of urban parks and realize the importance of their development along the lines of greatest utility as the action of the city of Philadelphia in allowing a corporation to establish and operate a trolley line into the heart of Fairmount Park. It seems incredible that ten Park Commissioners could have been found in Philadelphia so ignorant of their duties or so indifferent to their trust that a thing like this could have been possible, or that if the Park Commissioners had been captured by specious corporate arguments the intelligent and public-spirited people of the city could have permitted it. The most beautiful sylvan glades of the park are now noisy with the buzz of street cars. Trolley wires destroy every idea of country scenes; and the hideous iron bridge, built specially to carry this line across the Schuylkill into the park, is a serious injury to the beautiful river drive which it crosses, and stands squarely in the middle of the fine picture which was obtained from Belmont, the commanding and most interesting point of view in the park. There are between four and five miles of trolley road in Fairmount Park, and the city has obtained nothing for the franchise which has been given to a company to destroy the greatest value of one of the largest and most beautiful of all urban parks.

It is not surprising after such an indication of public indifference to parks to find that, although more than half a million dollars is appropriated annually by the city for park maintenance and improvement, the roads in Fairmount Park are washed by gullies and often covered with weeds, that the turf is everywhere in a wretched condition, that the boundaries are unprotected by plantations, and that the trees are dying from neglect or are being ruined by overcrowding. Nor is it, perhaps, surprising that the artistic value of the wonderful Wissahickon drive, which might be made one of the most interesting park drives in the world, has been sadly marred by the hideous wooden road-houses built on city land, which appear at every turn, with no other screen before them than that afforded by the white-washed trunks of a few trees, or that its beauty is impaired by the tree-weeds which have sprung up along the banks of the river, and long neglected, are now ruining many of the noble Hemlocks for which the Wissahickon is famous, and shutting out from the drive charming bits of sylvan beauty and long reaches of sparkling waters.

If Fairmount Park and the Wissahickon are thus allowed to fall into decay, little is to be hoped from the management of Bartram's Garden on the Schuylkill, now one of the small city parks. A few years ago botanists and horticulturists in every land applauded the intelligence and public spirit of Philadelphia when it purchased this piece of ground, a spot of remarkable historical and scientific interest, for here was established the first botanic garden in the New World, and here was the house built by the hands of John Bartram and many of the trees which he had planted. The interest in this spot is more than local, for the name and achievements of Bartram are known and respected wherever botany is studied or trees are cultivated, and it is therefore more than a local misfortune that his garden is allowed to suffer from ignorant or indifferent management. The great Cypress, the glory of the garden, brought by Bartram 160 years ago from the lower county of Delaware in his saddle bag, and a vigorous tree a few years ago, is now barely alive, and many of the other trees planted by him show unmistakable signs of insufficient nourishment and excessive draining. Trees die sooner or later; but the lives of many of these might have been prolonged, the garden might have been spared the "clearing up" which has eradicated the herbacous plants and many of the shrubs which added to its charm, and the old stone house might have been saved from the Japanese Ampelopsis which now hides its most picturesque side and seems as much out of place and as foreign to the scene as the yellow Japanese Retinosporas planted by the tomb of Washington at Mount Vernon.

Notes on Cultivated Conifers.—X.

Picea, the Spruce, is a well-marked genus with flat or angular sessile leaves articulated on prominent bases, which become woody and are persistent on the stout branchlets, stalked terminal or axillary staminate flowers, and terminal, often elongated pendulous cones, with persistent, entire, or more or less notched scales always longer than their bracts. The Spruces are large, often gregarious forest trees with scaly or rarely furrowed bark, and pale, straight-grained, soft wood. The genus is widely and generally scattered over the northern hemisphere with about eighteen species, seven of them being inhabitants of the United States; it is well represented in Japan, and probably also in the interior of China. One of the species,

at least, is common over large areas in northern Asia, another grows only on the Himalayas, and three species occur in Europe. In Picea are found some of the most valuable timber-trees in the world, and in favorable climates all the species are handsome and popular park-trees.

The most commonly cultivated Spruce tree in the United States is a native of northern and central Europe, the so-called Norway Spruce, Picea Picea (the Picea excelsa of many authors). This is the great timber Spruce of European silviculturists, and in its native forests it is really a noble tree, sometimes 120 feet in height, and clothed to the ground, when not too crowded by its neighbors, with long gracefully curving branches furnished with elongated pendant branchlets closely covered with dark green lustrous leaves. Introduced into the United States early in the present century, the Norway Spruce has proved very hardy in all the northern and middle states, where it grows with vigor and rapidity for thirty or forty years, when generally beginning to fail at the top, it soon becomes thin and ragged in appearance, and healthy, vigorous Norway Spruces more than fifty years old are uncommon in this country. The introduction of this tree, as it has been planted here, in enormous numbers, must be considered a misfortune, for it is certainly not as well suited to our climate as some of the native species which nurserymen usually have neglected for this foreign tree, as, unfortunately, it can be raised very cheaply from seeds. Growing rapidly and making a good appearance while young, the Norway Spruce is popular, too, with those persons who want to produce some immediate effect with their trees, but do not realize that the vigorous young plants which they admire in the nursery are almost sure to become long before they have reached maturity such ugly ragged specimens as now disfigure nearly every public park and private estate in the northern part of this country.

A geographical variety of this European Spruce (var. medioxima) with shorter, thicker and more rigid leaves marked by small bands of stomata, and shorter cones with thin, delicate scales rounded at the apex, is described in vol. ix., page 273, of this journal, by Dr. Christ, who points out the relationship of this Swiss and northern alpine tree with the Siberian Picea obovata. This interesting form has never, I believe, been tried in our gardens, but Picea obovata and its variety Schrenkiana are now growing slowly in the Arnold Arboretum, where they are not particularly promising, although on the Altai Mountains, in northern Siberia, Manchuria and northern China, countries with climates not very unlike that of our northern states, these Spruces form vast continuous forests.

As might have been expected in the case of a tree which has been so much cultivated in nurseries, a large number of curious seminal forms of the Norway Spruce have appeared from time to time and can now often be seen in gardens. Beissner, in his *Handbuch der Nadelholzkunde*, describes fifty-six of these varieties; among them are some excellent dwarf plants like the variety Gregoryana and the variety Clanbrasiliana, which are often useful for the decoration of small gardens. The varieties inversa and pendula are interesting small trees with branches pendant to the stems, and the variety monstrosa, with long straggling snake-like branchlets covered with short bristling leaves and destitute of lateral branchlets, is one of the most curious and hideous of arborescent monstrosities. Several of the other described varieties are hardly distinguishable and others are merely juvenile forms which soon outgrow their peculiarities.

A much more valuable tree than the European Spruce for New England is the White Spruce (Picea Canadensis). This is the most boreal of the Spruces of eastern North America, where it is distributed from within the Arctic Circle to the northern borders of New England and New York, northern Michigan, Wisconsin and Minnesota, South Dakota and northern Montana. This tree, which sometimes attains a height of one hundred and fifty feet, may be distinguished by the strong fetid odor of the foliage, the dark blue-green color of the leaves and the slender elongated cones, with thin rounded entire flexible scales. The White Spruce is a tree of the north and displays its greatest beauty only in cold countries, suffering in summer in the middle states and even in southern New England from the attacks of the red spider, which soon make the foliage thin and shabby. East of Cape Cod, however, it is the most beautiful of the Spruces which have been thoroughly tested here, dense in habit with persistent lower branches, and beautiful in color. Individuals vary considerably in the color of the foliage, however, one of the most distinct of these color forms being the tree with pale blue leaves (var. cœrulea) which is particularly attractive. Other forms with yellow leaves and with abbreviated or slightly pendulous or erect branches are cultivated in European collections. None of those which I have seen are particularly desirable or durable.

The Red Spruce (Picea rubra), an Appalachian species distributed from the valley of the lower St. Lawrence River to North Carolina, although little known in gardens and rarely planted, is a first-rate ornamental tree which might well be used in the northern and middle states instead of the Norway Spruce. The Red Spruce, which has long been confounded with the Black Spruce (P. Mariana, see GARDEN AND FOREST, vol. x., p. 62), is a tall slender tree frequently attaining the height of one hundred feet with thin branches and dense dark green foliage. The Red Spruce, which is the timber Spruce of New England, New York and the middle states, is a slow-growing tree in the forest, and it is not improbable that the oldest trees in New England belong to this species. I have had little opportunity to observe this tree in cultivation; the few planted trees, however, which I have seen are healthy and well furnished with branches and certainly have not grown very rapidly.

The Black Spruce is a smaller and more northern tree and an inhabitant of swamps and low wet ground. With the White Spruce it ranges to the Arctic Circle, and it is more generally spread over the northern states than the Red Spruce, which is confined to elevated regions except east of Cape Cod, where it reaches the coast, and it does not extend westward to the states bordering on the Great Lakes, where the Black Spruce is very abundant. The Black Spruce is a tree of rather open habit with blue-green foliage; in cultivation it soon becomes thin and shabby, and it is probably the least desirable of all the Spruces which have been fairly tested here as ornamental trees. Several varieties are described by nurserymen with the dwarf more or less compact habit or with the foliage marked with yellow or white, which are common seminal phenomena. None of these are particularly distinct or interesting enough to preserve.

Two Rocky Mountain Spruces discovered by Dr. C. C. Parry in 1861 and first raised by Dr. Asa Gray in the Harvard Botanic Garden, have proved hardy in the eastern states. The first of these trees, Picea Engelmanni, which is widely distributed from British Columbia to northern Arizona, is one of the most beautiful of the Spruces. It is a noble tree often a hundred and fifty feet in height with a tall stem covered with light cinnamon-red scaly bark, and pale blue acute soft leaves. This is the timber Spruce of the high slopes of the Rocky Mountains, where it forms great forests at elevations from eight thousand to eleven thousand feet above the sea-level. Here in New England Picea Engelmanni grows slowly, like most trees which have been transplanted from high altitudes to the sea-level, forming a handsome narrow and very compact pyramid with its lower branches resting on the ground. The largest trees have produced a few cones here. Unfortunately, Picea Engelmanni begins to grow very early in the spring and therefore it is frequently injured in western Europe by spring frosts, although in northern Russia it appears to be one of the hardiest and most valuable conifers.

Picea Parryana (the Picea pungens of most authors), the second Rocky Mountain species, the so-called Colorado

Blue Spruce, is a tree of more restricted range, being confined to Colorado, eastern Utah, and Wyoming, growing only along the banks of streams in small isolated groves at elevations between six and nine thousand feet. This species may be distinguished from Engelmann's Spruce by its pale, deeply furrowed bark, which is unusual in this genus, by its stouter glabrous branchlets and thicker rigid sharp-pointed leaves, bright blue on some plants and dull gray-green on others, and by its larger cones. As it appears in Colorado, Picea Parryana is a far less beautiful tree than Picea Engelmanni. The lower branches are soon overshadowed by those above them and then quickly die, and trees more than fifty feet high are usually thin and ragged in the tops. This Colorado Spruce has proved very hardy on the Atlantic seaboard, where it has been largely disseminated by nurserymen, and young plants are surprisingly vigorous and very handsome. The lower branches on the oldest specimens cultivated here, however, are already beginning to die, and there is every prospect that this Spruce will prove a failure as an ornamental tree. Among the seedlings raised from Dr. Parry's first seeds is a dwarf form which is still less than three feet in height and a handsome broad round-topped bush.

Neither of the Pacific coast Piceas has succeeded in the eastern states. Of these the Sitka, or Tidewater Spruce (Picea Sitchensis), is the largest of all Spruce-trees and one of the most majestic and beautiful of our conifers. The second Pacific Spruce (Picea Breweriana, see Garden and Forest, vol. iii., figs. 15, 16; vol. v., fig. 102) is remarkable in its pendant branches and long slender snake-like branchlets. Young plants of this tree, which is known only in a few isolated groves on the mountains of northern California and southern Oregon, have been successfully transplanted by Mr. A. J. Johnson into his nursery at Astoria, Oregon; and others may be seen in gardens in Portland. The efforts which have been made to raise Brewer's Spruce from seeds, however, in the eastern states and in Europe have not been successful, as the seedlings have an unfortunate habit of damping off as soon as they appear above the surface of the ground; and a few small grafted plants in the Arnold Arboretum are probably the only representatives of this interesting tree in the eastern states.

Japan is rich in species of Picea which, except in the extreme western and northern parts of Yezo, do not grow gregariously in great forests, as they often do in other parts of the world, but are scattered, usually singly, among the deciduous-leaved trees. The Japanese Spruces which have been the longest tried in our gardens are Picea polita and Picea Ajanensis. The former is a tree with stout rigid sharp-pointed yellow-green leaves, interesting in the fact that in our climate it begins to grow later in the spring than any of the other Spruces. This tree has been cultivated in the eastern states for twenty-five or thirty years and is very hardy in eastern Massachusetts, where there are a number of shapely specimens which have produced cones abundantly for a number of years. I should have considered this Spruce a most promising ornamental tree if I had not seen it in the forests of Japan. Perhaps it grows more thriftily in other parts of the empire, but on the Nikkō Mountains near Lake Chuzengi, which is the only place where I saw it, Picea polita was small, stunted, and miserable in appearance with thin tops and short ragged branches.

Picea Ajanensis is usually found in our gardens under the name of Picea Alcockiana, a tree with four-sided leaves which grows only on the mountains of central Hondo, where it is rather local, while Picea Ajanensis is one of the flat-leaved species and appears to be widely spread over north-eastern Asia, from Japan to Manchuria. I did not see this tree in Hondo, but in Yezo it is the common Spruce, forming forests in the western part of the island on low swampy ground not much raised above the surface of the ocean, and growing in the central districts usually singly among deciduous-leaved trees on low rocky hills. This is also the common Spruce-tree of Saghalin and the Manchurian coast. In the eastern United States where there are cone-bearing plants of Picea Ajanensis twenty-five or thirty feet in height, it is hardy, fast-growing and very handsome, with well-developed lower branches, and numerous branchlets clothed with leaves which are dark green and lustrous on one surface and glaucous white on the other. In early spring this tree is very conspicuous from the bright red color of the young branchlets when they first emerge from the buds. So far as I have been able to observe the true Picea Alcockiana, which should, perhaps, be called P. bicolor, has not succeeded in the United States and I have seen only very small plants here. Picea Glenhi, the fourth Japanese Spruce, first discovered on Saghalin, reaches southern Yezo and is possibly only a geographical form of the Siberian Picea obovata. A large number of plants of this species has been raised in the Arnold Arboretum, but they are still too small to give any idea of the value of this tree in our climate.

The curious dwarf Spruce considered by Maximowicz as a variety of Picea obovata (var. Japonica) but usually cultivated under its first name, Picea Maximowiczii, is perfectly hardy in the neighborhood of Boston. It is a bushy plant (the largest specimen in Mr. Hunnewell's pinetum is now from five to six feet in height) with slender cinnamon-brown glabrous twigs clothed with remote needle-shaped dark green four-sided acute leaves spreading in all directions nearly at right angles to the branch. This plant was first raised from seeds distributed about thirty years ago from the Botanic Garden of St. Petersburg. Nothing appears to be known of it in a wild state, and it has been suggested that it is a monstrous or juvenile form of some other species. As a curiosity Picea Maximowiczii is worth a place in collections of conifers. The beautiful Himalayan Spruce-tree (Picea Smithiana), which is one of the largest of the genus, is widely scattered over the mountain ranges of northern India at elevations between six and eleven thousand feet above the sea-level, and is hardy in a young state, at least, in sheltered positions in the middle states. I have not seen large trees in this country.

Picea orientalis from the slopes of the Taurus and the Caucasus is one of the handsomest, hardiest and most valuable of the exotic conifers introduced into our gardens, where it has now been successfully grown for nearly fifty years. It is a large tree of dense narrow pyramidal habit with dark green lustrous rigid leaves which are so closely pressed against the branchlets that these appear more slender than those of other Spruce-trees. Beautiful specimens of the Oriental Spruce may be seen in the neighborhood of Philadelphia, in the old Parsons Nursery at Flushing, Long Island, and in Mr. Hunnewell's pinetum. So far as it is safe to form an opinion based on an experience of only fifty years it would appear wise to plant the Oriental Spruce much more frequently in this country than has been done.

The third European species, Picea Omorika, an inhabitant of the mountains of Servia, Bosnia and Montenegro, is interesting in its resemblance to the Pacific Picea Sitchensis and some species of north-western Asia in the character of its leaves, and in the fact that it was discovered only a few years ago. This Spruce, which is described as a large tree in its native forests, has proved hardy in the neighborhood of Boston, where there are now several plants five or six feet in height. Here it is attractive in its good habit and in the color of the leaves which are straight, flat, linear-oblong, obtuse and rounded at the apex, from one-half to three-quarters of an inch in length, green and lustrous on one surface and pale on the other.

C. S. S.

Nature uses actual beauty only as a luxury; for occasional and sparing adornment, sometimes a little while in profusion, but never making it a lasting feature of any prominent objects.—*Halcyon Days.*

New or Little-known Plants.

Orchids in the South Mountain, Pennsylvania.

FOR several years the discovery of "high-towering spikes of Purple Orchis," Habenaria fimbriata, had been an unrealized dream, but this year, late in June, unexpectedly I found three stalks growing close together on a shaded islet of the Conococheague, in the western border of the South Mountain, in Pennsylvania, and most reluctantly bore away the specimen illustrated on this page. This plant was twenty-eight inches in height, with a flower-spike three inches in diameter and seven inches in length. In the orange Habenaria, owing to the greater number of flowers, the lower portion of the spike is usually withered some time before the upper part has opened, but in this specimen of H. fimbriata almost every blossom was more or less expanded and quite unfaded when first gathered. Lifted above the mat of moss and grass in which it was growing, it was regal and almost startling as one suddenly came upon it the first time.

Fig. 60.—Habenaria fimbriata.

This Habenaria is rare in that locality, probably owing to washouts in recent years along many branches of the Creek, for other Orchids growing in meadows and protected places are abundant. My assistant told me he had seen but one other specimen, and I wish that careless collectors of wild flowers might have seen the way in which he took up and carried this plant. The photograph conveys an idea of the stately habit of the plant, but fails entirely (owing to the reduced scale—only one-third the natural size) to indicate the rich fullness of its foliage, and without color it is impossible to imagine the clear translucent tone of its feathery blossoms. Purple is such a violent-sounding term to use, and yet these delicate flowers are undeniably purple, of a very pure tone, with no red apparent.

The Habenarias bear transplanting very well, and nothing could be more beautiful in large grounds with a running brook than a grassy point set with purple Orchis and screened from the sun by overhanging Nemopanthes, white Azaleas and Witch Hazels.

The graceful, delicate little plant, Pogonia ophioglossioides, bears what Mr. Baldwin truly calls a harsh and irritating name; one of the names that has helped stifle a growing interest in many a flower lover, who with appreciation of delicate texture, exquisite color and form, has not yet mastered Greek roots. In the South Mountain the Pogonia is found in quantities in the latter part of June, but it is easy to miss them for their season of bloom is short. One week there is an expanse of grassy field, the next week it is starred with the lovely pink blossoms, and the following week one may look in vain for one.

Pogonia ophioglossioides is by no means always found associated with Calopogon, but the latter is invariably found with the Pogonia, and two stalks of C. pulchellus, to the left in the illustration on page 485, were allowed to remain in the sphagnum bed when the Pogonias and their concealing grasses were lifted from their swamp-meadow home, and carried sixty miles to be photographed.

The Pogonia is fibrous-rooted, with slender two-leaved stems usually the height of the surrounding marsh grass or seven or eight inches tall; but frequently specimens ten and twelve inches high and bearing two flowers are found. The pink color of this Orchid has been the subject of many vain attempts at description, and is to other pinks what the blue of Fringed Gentian is to other blues, unforgettable but indescribable. It is a pure pink, not rose or flame tinted; of uniform tint in sepals and petals, excepting the bearded lip, which is white, with groups of epidermal cells scattered irregularly along the

veins, and the extreme delicacy of color is due to this contrasted petal.

Inquiry in several directions has so far failed to discover in this country the successful cultivation of these two associated bog Orchids, but Mr. Thomas Meehan informs me that the late Comte de Paris, an enthusiastic Orchid collector, had standing orders in this country for native plants, and reported entire success in naturalizing both Pogonia and Calopogon. It would be interesting to know what treatment they received, that we might in time have more meadows filled with this all too short-seasoned flower.

Harrisburg, Pa. *M. L. Dock.*

Foreign Correspondence.

London Letter.

A New Dendrobium.—Over two thousand newly imported plants of a supposed new species of Dendrobium were sold by auction to-day at the instance of Messrs. F. Sander & Co. The catalogue description states that the flowers are large and produced in profusion. The labellum is broad and of a deep crimson color, the sepals and petals thick and overlapping as in the Moth Orchid, and of all shades of color. The bulbs literally bristle with old flower-spikes. This is a plant for the florist, and it will become popular, as it is a winter bloomer. The Bismarck islanders told the collector that the flowering season was December and January, which he verified from Mr. Ohlsen, the missionary. The different and quite new habitat of this species accounts for its winter flowering, and although it may bear some resemblance to the magnificent Dendrobium Phalænopsis, it is totally distinct from that plant. It may prove the winter-flowering companion of that species. There is a great variation among these plants. The bulbs differ so greatly that possibly more than one species is present. The collector wrote that he found the plants growing among low shrubs in almost pure sand and débris, and that the flowers were exquisite and of all shades of color, covering the shrubs with myriads of butterfly-like blooms.

Leea amabilis splendens.—This is an improvement upon the type, which was introduced from Borneo fifteen years ago by Messrs. Veitch & Sons, when it received much attention because of the rich color and elegance of its foliage, and was appropriately described as resembling a shrubby Cissus discolor. It failed, however, to become an established favorite, chiefly on account of its leaves losing their variegation when the plants grew to any size. I am told that in the tropics it grows to a large size and is then wholly green. I lately saw in the nursery of Mr. Bause some plants of the variety above named, which he says have so far retained the rich dark velvety green and silvery feather-like variegation when grown to a good size, and, as the band of white extends, not only along the midrib, but also along the main lateral veins, the beauty of the plant is of a high order.

The Pampas Grass and its Allies.—This is the subject of an interesting paper by Dr. O. Stapf, of Kew, the first part of which is published this week in *The Gardeners' Chronicle*. Although fourteen species of Gynerium have been described, only two or three of them have ever found a place among garden plants, and only one, namely, G. argentum, the Pampas Grass, has become really popular. A second species, G. saccharoides, a native of South America, is grown at Kew and in a few other gardens. Its large, elegant plumes are extensively imported and sold for decorative purposes under the name of Uva Grass. This species differs markedly from the Pampas Grass in its tall Bamboo-like culms, which are from twenty to thirty feet high, with leaves as much as twelve feet long. A parallel case was that of the Bamboo-like Arundo donax and the tufted A. conspicua, until Dr. Stapf discovered that the latter is not an Arundo, but a distinct genus, which I believe he has named Cortaderia.

Acnida australis.—Seeds of this plant have recently been received at Kew, accompanied by particulars of its growth and habit, as observed in the peninsular portion of the state of Florida, where it would appear to grow to an extraordinary size in a few months. It is described as an annual, making most of its growth from May to August, and ripening its fruit in September or October. In rich boggy soil its stem sometimes grows to a circumference of more than three feet, with a height of twenty-five feet and branches capable of supporting the weight of a heavy man. Specimens have been described as "thirty feet high and as big as a barrel." The trunk is described as dark crimson in color, the leaves of a shining rich green and the flower-spike pyramidal. For an annual this is a phenomenal plant. Its behavior at Kew will be watched with interest. The genus is a near ally to Amarantus, and there are four or five species, all American.

Winter-flowering Begonias.—Three new hybrids raised from Begonia Socotrana and tuberous varieties have lately been distributed by the raisers, Messrs. J. Veitch & Sons. They are now nicely in flower in the Begonia-house at Kew, and are remarkable for their sturdiness of stem and closer approximation to the tuberous-rooted sorts than any other of the Socotrana hybrids. The flowers are large and full, fleshy, and the colors are rich. They are: Ensign, which has semidouble flowers over two inches in diameter borne on erect peduncles; their color is rich rose-pink; Mrs. Heal is dwarfer, the peduncles are numerous, erect and long enough to raise the flowers well above the foliage; they are three inches in diameter and colored deep carmine; Myra has long, slightly arching peduncles, and the flowers are of a bright rose-carmine color. As is the case with all the Socotrana hybrids, the flowers of these new ones are persistent. B. Socotrana is now flowering freely in the stoves at Kew.

Cannell's Zonal Pelargoniums.—Mr. Cannell's exhibit of cut blooms of Zonal Pelargoniums was perhaps the most striking feature, outside the Chrysanthemums, at the Aquarium exhibition last week. No one has done so much to improve and popularize these plants as he, and no one appears to enter into competition with him as a grower and exhibitor of them. A table stretching across the exhibition hall was entirely filled with large pyramidal, bouquet-like bunches of flowers of exceptionally large size and lustrous colors, an altogether marvelous production for mid-November in this climate. I noted the following as the most attractive in size, form and color of bloom: Niagara, pure white; Red Eagle, scarlet, white eye; Gertrude Pearson, pink, white eye; Miss E. Wilson, pale salmon-pink, red eye; Countess de Morella, scarlet, large white eye; Miss P. Routh, salmon-pink, very large; A. Tennyson, scarlet; Duchess of Marlborough, pale salmon, darker centre, very large. I believe I have already written you some particulars of Mr. Cannell's cultural methods for these plants. The essential conditions are liberal cultivation in pots out-of-doors during summer, the removal of all flower-buds until October, housing the plants in a light greenhouse close to the roof-glass, and keeping the atmosphere dry by means of thin hot-water pipes fixed among the plants or directly over them. The plants are encouraged to make a few shoots and the flower-heads are removed as soon as the flowers are over. The difference between the Zonal Pelargonium as seen in the ordinary way and as grown by Mr. Cannell is as great as that between a half-starved Chrysanthemum and the specimens one sees at exhibitions.

London. *W. Watson.*

Cultural Department.

Seasonable Work.

We have had some wintry weather quite early this year, there having been two moderately heavy snowfalls before Thanksgiving Day, November 25th, and one or two quite severe frosts. Until November 19th, when we had our first snowfall, the season was unusually open here, and Pansies, hardy Chrysanthemums, Geraniums, Verbenas, etc., were still blooming in the open. As a rule, we can carry on outdoor

Fig. 61.—Pogonia ophioglossioides.—See page 483.

operations here until Christmas with a few breaks, and although the appearances are winterly at present, we may still have not a few mild days before winter sets in steadily.

Perennial borders have recently been gone over, all dead tops cut down, weeds hoed up and raked off, and a liberal coating of well-rotted manure spread over the whole. Perennials to do their best must be liberally fed. Too often they are starved. The contrast between a bed heavily mulched in late fall and one scantily supplied with manure is striking. We leave the manure on the surface to act as a mulch during the following summer, scratching it over and breaking up the lumps with an iron rake. Doubtfully hardy plants, such as Helianthus multiflorus plenus, Anemone Japonica, Tritomas, Montbretias, Heuchera sanguinea, etc., are protected by a few shovelfuls of half-decayed leaves. Beds containing bulbs are covered with a few inches of leaves, over which pieces of boards are laid to keep the leaves from blowing about. It is quite a common practice to see Tulip and Hyacinth beds with a heavy coating of rotted manure as protection. A lighter material is preferable, as it takes some days for the frost to leave the manure when the season breaks. The bulbs themselves are perfectly hardy; the covering is given more to keep the frost from lifting the bulbs out of the beds than as protection. Flower-beds have recently been manured and dug, and present a neat appearance for the winter. No more of this work should be postponed until spring than is necessary.

Cold frames will now require to be secured from severe frost. We pack a few inches of dry leaves about the sides of ours. By doing this and using mats and shutters we are able to keep out the most severe frosts. After the ground is frozen hard in frames containing Pansies, Polyanthus, Wallflower, etc., and seedling perennials, we pack dry leaves over the plants, airing them on all mild days and removing the leaves on the first approach of spring. Stock plants of Chrysanthemums keep well if treated in this way. Lettuce grown in frames requires care in ventilation and watering at this season, or many of the plants will rot off. The surface soil will need scratching over occasionally, particularly if any green slime appears.

Violets are doing specially well this season, less disease being apparent than for several years. Marie Louise is still much the best sort, producing more flowers than any other kind. The color is much darker than that of Lady Hume Campbell. The latter is easier to grow and is a fine sort for those who cannot succeed with Marie Louise; it requires artificial heat in winter and is of little use in cold frames. The Farquhar gives a few fine flowers, but is not so robust a grower as Marie Louise; if it is well grown no other Violet can compare with it. Princess of Wales promises to be an excellent single Violet, much superior to California and Luxonne. Once a week Violets should be looked over, and decaying foliage, runners, etc., removed. If some runners have not been put in for next year's stock it is not yet too late to start a few in boxes; these should be kept over winter in a frame. Plants raised in the past two seasons in this way have been much superior to spring-rooted ones.

Compost heaps require attention at this season. We usually prepare ours early in December. It is hardly possible to arrange for too much good compost. For potting material sods of good fibrous loam are indispensable. We place a layer of well-rotted manure between each double layer of sods; a stack prepared now should not be used before next fall. Special compost heaps are required for Roses, Carnations, Chrysanthemums and Violets. I have seen good flowers of all these plants grown from the same compost, but, as a rule, growers prefer to make some distinction. Roses thrive best in a heavy retentive loam of a clayey nature, and are not at all happy when planted in a sandy compost which Carnations rather seem to like, but which Chrysanthemums would not take kindly to. All compost heaps require plenty of manure of the best quality. Leaf-soil is most useful in compost; three years are required for leaves to rot down sufficiently to make the best leaf-mold. If they can be turned over once a year they will decay more quickly. They should never be stacked near trees which will soon fill them with a mass of fibrous roots. In collecting leaves pine-needles should always be excluded, and all sticks and twigs be thrown aside.

Gooseberries and Currants have recently been pruned and well mulched with rotted manure. Some of the strongest prunings of each kind are saved and heeled in to give a succession of stout young bushes each year. The pruning of Pears, Apples and Grapevines will be concluded as weather permits. All prunings are raked up and burned, after which a liberal dressing of manure is given. Strawberries we cover with leaves after the ground becomes frozen hard and throw some Pea brush over the top to keep the leaves from scattering.

Where Celery is wintered in the open it should now be well protected with leaves, straw or seaweed. It is keeping well this year with us. Golden Self-blanching and White Plume provide a supply until Christmas, after which we rely chiefly on Boston Market and Giant Pascal. Any vacant patches to be used for vegetables may be manured and dug while the weather permits. This will materially lessen the strain in spring, when so many operations are pressing at one time.

Taunton, Mass. *William N. Craig.*

The Pink Color in Chrysanthemums.

THE economic importance of Chrysanthemum-growing (which in this state is estimated to involve more capital than Peach cultivation) justifies the attention paid to this subject by the Cornell Experiment Station. Chrysanthemums are not yet quoted in market reports by names of varieties as Roses sometimes are, but the prices are usually given for the three prominent colors—white, yellow and pink. The various shades of pink seem to be exceedingly unstable. One of the popular commercial varieties is Fred Walz, which I have frequently seen in three or more easily distinguishable shades, although the plants seemed to be grown under very similar conditions. This variety being somewhat stiff and formal in outline, is easily ruined for artistic effect by unevenness of color. The mere fact that the pure pink of Mr. F. Schuyler Mathews's color-chart has not yet been attained in chrysanthemums is not so serious in itself, because that is only one particular shade. There seems to be an entire series of colors whose value is determined far more by the skill of the cultivator than by the variety. Amaranth, crimson, rosy pink, crimson-pink, light pink and blush-white are some of the names of trade catalogues which represent a gradation from the deepest shade of the series down to pure white, and it seems probable that any of these shades may in some cases be obtained from a single variety. Not all varieties, of course, are so highly susceptible as this, but frequently the difference is enough to make the flowers unsalable. The control of color, therefore, becomes a problem of great practical interest.

The problem is doubtless a complicated one. There seem to be at least five factors concerned, any one of which may change a pink to a white. The choice of buds is said to be sufficient in some cases. J. H. Woodford, one of Mr. Spaulding's novelties, is advertised as shell-pink from terminal, and pure white from crown-buds. Overpropagation is generally thought to weaken color. Temperature and ventilation (the two factors can hardly be separated in greenhouse practice) are advertised to produce three distinct and desirable shades in Mrs. Colonel Goodman. Mere position (in pots, beds or benches) should not in itself make a difference, but in practice it does. The effect of shade is variously stated. And most complicated of all, the food factor is known to influence color, but just how is a mystery.

Thirty-one varieties advertised as having various shades of pink were grown here under the same conditions. Fourteen gave white flowers with only a trace of pink at most in a few cases. Three others had much less color than their descriptions imply. I cannot explain such a condition. The general health of the plants was excellent. The four flowers on each plant averaged about six inches in diameter, and all the other details were entirely satisfactory.

Last year I noticed in another place some white varieties which showed pink. Among them were such important sorts as Our Mutual Friend and Marie Valleau, the latter, however, being less frequently described as pure white. The food being much richer than our own, especially in nitrogenous matter, I suspected that an extra supply of nitrogen might have called out the pink color which we had never observed in these white varieties. Mr. E. G. Hill warns his customers not to use nitrate of soda in the cultivation of certain light pink varieties, as it produces a deeper and unpleasant shade.

It was convenient to single out only two of the supposed factors this year, and the experiment has turned out contrary to my expectations. The extra amount of nitrogen did not deepen the color, but the flowers proved very sensitive to shade. Shade is said by some to deepen the color, but the reverse was true in this case. The difference was perceptible at a glance in the case of Mrs. Perrin, Madame Felix Perrin, Marie Valleau, Helen Bloodgood and Iora, and in a lesser degree with William Simpson and Maud Dean. This difference would not prevent the sale of Iora, which is usually uniform in color, whatever the shade may be. The varieties Mrs. Perrin

and Madame Felix Perrin, however, lost their characteristic, sparkling, rosy color, and were not of a salable character. Some of these varieties were shaded from the time the buds were the size of marbles until they came into full flower. Others had already burst their buds and were out an inch or more before the glass overhead was whitewashed. I know nothing about shading Chrysanthemums during the purely vegetative phase of their life. It seems clear, however, that during the reproductive phase the forming flowers are weakened in color by shading. There was only one contradictory plant among twenty-five. It is a common complaint among florists that the pink color stays only a few days after the flower opens, and perhaps sunlight and shade cannot then arrest the fading. The results with the nitrogen factor were not conclusive. At any rate, we did not force any pink into such white varieties as Lenawee and Our Mutual Friend.

One of the most popular of all Chrysanthemums is the white variety Ivory. It is included by many dealers in their list of twelve best varieties for commercial purposes. It is used for cut flowers and pot-plants, and still figures among the winners in the exhibitions. Naturally pink sports of it are eagerly sought after. Miss Agnes L. Dalskov (commonly called Pink Ivory) has been much praised elsewhere. With us it had barely a trace of color last year, and none in 1897.

Ithaca, N. Y. *Wilhelm Miller.*

Correspondence.

City Playgrounds.

To the Editor of GARDEN AND FOREST:

Sir,—The Massachusetts Emergency and Hygienic Association has led the way in this country in efforts to provide playgrounds for the summer use of children, and has now under its charge in Boston eleven yards, mostly belonging to schools, at which, during the summer of 1896, there was an average attendance of 1,804 children a day. These yards, of course, are only available during vacations. The valuable Charlesbank gymnasium accommodates a large neighborhood, and I am told that the average attendance there in the summer months is above a thousand a day; but there are many sections of the city too distant for the residents to avail themselves of the Charlesbank, and to them the great park systems are wholly inaccessible, so that these sections are in sore need of some municipal provision for spacious recreation-grounds. There is also an Emergency Playroom at Morgan Chapel, Shawmut Avenue, and the Episcopal Mission has provided seven rooms, where at certain hours children can play under proper supervision. There are vacation schools connected with Denison House, and the Lincoln House Settlement is doing admirable work in providing recreation for the poor of the South End, and, no doubt, there are other private provisions for their needs, but a great deal remains for the municipality to organize and pay for.

It may be of interest to your readers to know just what is being done by the Emergency and Hygienic Association in the yards they manage so admirably, and, therefore, I subjoin an account of some of them which I had the pleasure of visiting last summer with one of their public-spirited directors.

I was taken first to South Boston, to a sort of human chicken-coop on a three-cornered piece of land between two streets, left unoccupied when the Ellis Memorial was built. This space the trustees of the Memorial were glad to put at the service of the Association, and the ground was at first enclosed with a board fence, and later with slats to admit the air more fully, and shaded with a canvas awning. This awning I found in a very dilapidated condition at the end of the summer, it having been willfully torn by mischievous boys of the neighborhood, who at first gave a great deal of trouble to the managers by forcing an entrance and terrifying the children. The intrepidity of the matrons in charge of the ground, helped by the police, put the hoodlums to flight, and the younger children are no longer molested. The doors of all the yards, however, have to be kept locked to prevent the intrusion of the unruly element, always ready to make a disturbance, and only the younger children are admitted at the proper hours of recreation. There was nothing but a dirt floor in this poor and small, but much-valued enclosure; at one end were sand piles for the smallest children, in which they played contentedly with shovels and pails. There are superintendents called matrons in all the yards, whose business it is to keep order, to teach kindergarten games and occupations to the children, to take charge of and distribute the playthings and books which are provided, to settle disputes, and to keep out intruders. These young women, mostly school-teachers who desire to supplement their small salaries by work in summer, take great interest in the little ones, know their names and characteristics, and are most kind and cordial in their treatment of them. It is interesting to note that though these teachers often begin the playground work when they are weary and worn with school-teaching, they grow brown and healthy in this daily occupation in the open air, even amid such poor surroundings. Two or three times a week, and sometimes daily, the yards are visited by members of the committee, who are a court of final appeal in case of difficulty.

From this playground we passed on to a more pleasant one at the Mather School, in South Boston, which is shaded in the morning by a few street-trees and by the high buildings about it. We had found about eighty children enjoying themselves in the dreary little pen at West Second Street, but here there were, or had been during the morning, nearly two hundred, who disported themselves upon the flagged pavement outside the schoolhouse enclosed by a high iron fence. Here were also sand pens and toys, and the boys and girls proudly exhibited the work they had done with cardboard and worsteds, or the little drawings they had made. Sometimes a baby in a carriage was wheeled and attended by an older child. At stated hours plays for the little ones were conducted by the matrons; among these the flag drill was particularly enjoyed. It was interesting to note the pleased expression on the wretched, depraved faces of men of the lowest description, who paused to look through the fence when the children were in a ring playing some of the pretty kindergarten games, and one realized that the playground was a civilizing influence, not only for the children, but for the adult neighbors who looked on.

Another schoolyard in Shawmut Avenue, opposite Lincoln House, was thronged at a later hour with frolicsome happy children, and in the lower part of the schoolhouse some of the girls gathered to paint flowers from nature. While I was there flowers, sent in great baskets from the Flower Mission, were distributed among the children, to their evident joy. Several newsboys dropped in for a spare twenty minutes to enjoy a game of checkers, and weary mothers came to leave their little ones in safe-keeping. Shawmut Avenue is a dirty street, and the dust blew about in clouds, but the boys and girls swept the yard frequently, and so kept it orderly. One longed for a tree or a corner of green shrubbery or a bit of grass. The visit later on to the Charlesbank Gymnasium was restful, and it was easy to realize what it must mean to the denizens of crowded tenement-houses to have such a resort, where shrubs and trees flourish, and there is a stretch of turf to roll upon.

The Earl of Meath has said it is better for a city to have a hundred parks of one acre than one park of a hundred acres. Frequent open spaces, with plants and grass in the corners, should be scattered for the use of children all through the great cities with their crowding houses, hard pavements and noisy streets, which until lately have been the only place where the young could amuse themselves. It is pathetic to see the great enjoyment which not only the children, but the mothers, take even in the least attractive of the yards, and the refining influence of the kind and sympathetic treatment which they receive is evident both upon the children and their parents. Many of the boys are so unused to decent treatment that when they first come they are in constant dread of a blow when the matrons approach them, but after a time they become respectful and helpful, and a book to read often tames the most obstreperous.

All that the directors ask is that the city shall furnish the yards with shade-trees, of which they are sorely in need. Even the broad stretch of greensward at the Charlesbank is unavailable on hot summer days, because it is absolutely unshaded. It seems a mistake to sacrifice the comfort of the children to a landscape-design which could hardly be fatally marred by one or two trees to afford a refuge from the burning summer sun.

But the city should do more than grant this simple request; it might clear away rubbishy old buildings and give open spaces for the use of children in every quarter of the city, as the authorities are doing in London. The Charlesbank, which we owe to the Park Commissioners of Boston, was the first free open-air gymnasium in the world, and this, under the superintendence of the Massachusetts Emergency and Hygienic Association, has already in three years added noticeably to the public health. Children with tendencies to curvature of the spine, with stiffness of the joints and general ill-health have had exercises prescribed for them by the careful superintendents, and these defects have been remedied. The matrons report the growing activity and vigor of the girls, 300 of whom

are now willing to practice gymnastics, which but few would attempt in the beginning. Nearly 3,000 towels, used in the girls' bathrooms alone, show how the once "unwashed" are learning to appreciate the free baths provided for them after exercise.

Any one who would visit the playgrounds which the Association has taken such generous care of for ten years, would feel with me that it is the most touching and interesting of charities, and one that cannot be too generously aided in its good work. A contribution of one dollar is sufficient to give one child for a summer the privileges of the playgrounds and valuable instruction in good citizenship. The matrons, of course, have to be paid, and there are certain incidental expenditures for toys and implements, though most of these are free gifts, as is the sand, ten heaps of which have been distributed for ten years by one firm. The public spirit of citizens has been generous, but an enterprise such as this, now so well started, with its course so clearly indicated, should not be left to charity alone, but be made one of the duties of the municipality.

Hingham, Mass. *Mary C. Robbins.*

Notes.

Professor James Troop, Horticulturist of Purdue University, was recently appointed State Entomologist by the Governor of Indiana.

During last week 1,003,900 cocoanuts reached this port on four steamers, from San Blas, San Andreas, Kingston and Port Antonio.

In the second number of *The Plant World* there is an account of Amos Eaton, one of the Nestors of American botany, accompanied by a full-page portrait.

Notwithstanding heavy rains in California, which interfered with the work of drying, the raisin product of that state for this year is estimated at 75,000,000 pounds, according to *The Fruit Trade Journal* of this city.

From three-year-old Peach orchards in the Ozark region, operated by the McNair Brothers this season, an abundant crop, of excellent quality, was produced. Eleven days were required for gathering and shipping, and the selected fruit was forwarded to eastern markets in refrigerator cars. The net returns amounted to $165 an acre.

In the Revue of the Horticultural and Botanical Society of the Mouths of the Rhone, published in Marseilles, Monsieur Naudin has recently published notes on the fruiting at the Villa Thurer of Araucaria Bidwillii, Jubæa spectabilis and Cocos australis, a fact which will be of interest to gardeners in the warmer parts of the world.

Monsieur André in a recent issue of the *Revue Horticole* describes the new system adopted in Berlin for watering street trees by means of a number of small pits dug at some distance from their trunks and filled with perforated vertical drainpipes. The pits are covered with movable covers, and when it is desirable to water the trees these are removed and the pits filled with water, which enters the vertical drainpipes through the holes in their sides and gradually finds its way down to the roots of the trees. This system has been found very economical because none of the water is wasted, and as it reaches directly the ends of growing roots it is not necessary to water the trees frequently.

Mr. C. C. Andrews, Chief Fire Warden in Minnesota, in his preliminary report for 1897, regarding forest and prairie fires in that state, says the season of possible danger of forest and prairie fires lasted this year longer than usual, and a few fires occurred after the middle of November. The recent snowfall, though light, extended over most of the state, and probably no further damage need be apprehended this year. Dry weather prevailed over an extensive forest area about three weeks in April and May, and again in September and October. A number of fires occurred and a good proportion of them were extinguished or controlled by fire wardens and citizens who assisted them, so that no fire proved of very serious magnitude. Probably the total damage by forest fires in Minnesota this year will not exceed $14,000. This is an improvement over last year, and considering that the standing timber in the state, at a low valuation, is worth $100,000,000, the amount of damage is small. The principal work done under the fire-warden law is that of prevention. At a low figure the standing value of the Pine that will be cut in Minnesota this winter is $5,000,000. When sawed into lumber at the mills its value will have increased to $10,000,000, of which increase eighty per cent, or $4,000,000, represents labor. These figures only indicate in part the importance of the forest resources of the state.

The value of Begonia Gloire de Lorraine, as this admirable plant becomes better known in this country, is clearly demonstrated. It is a hybrid raised by Lemoine, of Nancy, in 1891, and is one of the most valuable of the long list of hybrids with which he has enriched gardens, and was obtained by crossing the winter-blooming tuberous-rooted Begonia Socotrana with B. Dregei. The hybrid, curiously enough, however, is not tuberous-rooted, but produces from the base of the stem numerous shoots which insure its rapid multiplication. This Begonia, with its neat habit and rather small clear green leaves, is covered from November to May with bright pink flowers, and is a delightful object with which to enliven the conservatory in winter or for table decoration. A flowering plant was figured in the fifth volume of Garden and Forest (page 244, fig. 48), and this Begonia was also described a year ago by our London correspondent (vol. ix., page 494), who speaks of it as the most popular Begonia in England. Although the flowers are considerably smaller than those of B. Socotrana and the foliage is less bold and striking, it will probably become a more popular plant than that species, as it is rather easier to manage, the flowers are numerous even on plants a few inches high, and the flowering season is much longer. In every respect this is one of the best winter-blooming plants of recent introduction.

The final importations of Almeria grapes for this year, received last week, showed no improvement in condition over those sold earlier in the season, many being unsound. A few barrels of choice-quality fruit in good condition reached the extreme price of $15.00 a barrel at wholesale. The season for shipping New York state grapes has also just closed. From the grape section about Lake Erie alone 6,000 carloads of this fruit were forwarded. Last week marked the last arrivals of California grapes, when five carloads were sold here. The season for so-called deciduous fruits from the Pacific coast is now ended, and that of Citrus fruits is fairly begun. These oranges and lemons are, however, unduly hurried into market, being inferior in size and color. The orange crop of Florida for this season is estimated at 275,000 boxes. Last year's crop amounted to 160,000 boxes, and that of 1895, after the freeze, to 65,000 boxes. Four-fifths of this year's crop has already been sold by the growers, the fruit commanding $2.00 to $2.25 a box on the trees. The cost of wrapping, boxing, transportation, commissions, etc., must be added to these figures, and choice Florida oranges command from $4.50 to $5.50 a box from retail buyers in this city. Mandarins from the same state cost $6.00 a box at wholesale, Tangerines, $7.00 to $10.00, and grape-fruit $5.50 to $6.00 a box. Among fruits recently exported were 100 boxes of Navel oranges, from California, shipped to England for the Christmas trade, a carload of pears from Oregon, and 100 boxes of California apples, to Hamburg.

Mr. William Hamilton, who, a century ago, lived at Woodlands, on the Schuylkill River, in what is now West Philadelphia, was interested in the cultivation of trees. Many exotic species were first planted in the New World in his garden, which in his time was the most famous establishment of the kind in America. Among other trees, he introduced the Lombardy Poplar and the Norway Maple into this country, and Pursh and other famous men were in his employ. Woodlands was long ago converted into a cemetery, and many of Hamilton's trees have thus been spared. The most conspicuous and interesting of these now are four plants of the Caucasian Zelkova crenata, probably the largest specimens of this interesting tree in America. They are comparatively low bushy trees, with short trunks about four feet in diameter, covered with smooth gray bark like that of the Beech, the small, crowded, erect branches forming dense oblong heads, which in winter, when the trees are bare of leaves, are extremely picturesque and interesting. Zelkova, which belongs to the Elm family and is related to Planera, of our southern states, consists of two species, one, the type of the genus, Zelkova crenata, being found only in the Caucasus and the adjacent regions, while the other species, Zelkova Keaki, is confined to Japan, where it is a large and exceedingly valuable timber-tree (see Garden and Forest, vol. vi., page 323, fig. 49). Introduced into the United States several years ago, this Japanese Zelkova promises to become here a large and handsome tree. The Caucasian species is less hardy, and, so far as we have observed, is only well represented in the United States by these four trees at Woodlands.